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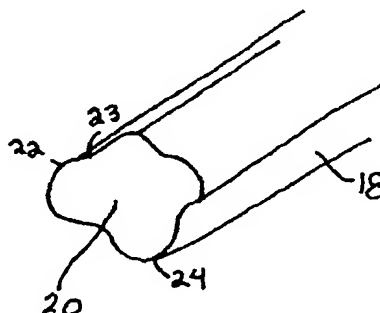
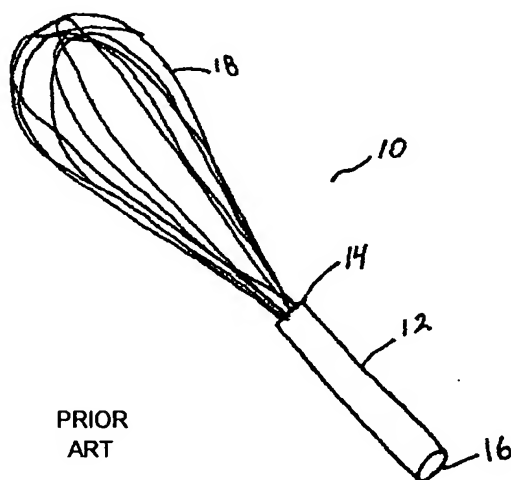
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(54) Title: **A COVERED KITCHEN UTENSIL AND A COVERING FOR A KITCHEN UTENSIL**



(57) Abstract: The present invention relates to a kitchen utensil such as a whisk (10) having a handle and at least one elongate member (18) attached to the handle for contacting at least one of a food and a food preparation surface. The at least one elongate member has a cross-sectional profile that is non-round. Preferably, the elongate member comprises a central core and a resilient covering having a non-round peripheral cross-sectional shape at least one of V, flower, star, square and cog shapes. The elongate member may be shaped to conform to the internal profile of a vessel. Such kitchen utensils provide improved whisking, mixing, beating and scraping action.

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**A COVERED KITCHEN UTENSIL AND A COVERING FOR A****KITCHEN UTENSIL****TECHNICAL FIELD**

The present invention relates to a kitchen utensil with a  
5 covered elongate member such as a covered whisk.

**BACKGROUND OF THE INVENTION**

This invention relates to kitchen utensils that are used in  
contact with food containing surfaces including the  
surfaces of vessels such as pots and pans, bowls, bottles  
10 and jars and other foods and equipment and with food  
contained within or supported by such surfaces. For  
example such kitchen utensils include whisks, pastry  
blenders and cleaning tools. It is often important when  
using such kitchen utensils that the contact between the  
15 utensil and the vessel, or the food contained in the vessel  
in the case of a whisk or pastry blender, be maximised for  
efficient and effective use.

Generally such whisks comprises loops, blades, bristles or  
other elongate members that have a cross-sectional profile  
20 that is round. For example, Figure 1a illustrates a utensil  
10, which is a conventional whisk, generally having an  
array of flexible elongate members 18 (e.g. whisking  
elements or cleaning elements) connected at an inner end 14  
of a handle 12. Other conventional whisk configurations  
25 are known to those skilled in the art such as the balloon  
whisk, flat whisk, and Swedish style helical whisk  
illustrated in applicant's U.S. Patent No. 6,257,752 B1  
issued July 10, 2001. Additional kitchen utensil  
configurations such as the ball whisk described in U.S.  
30 Patent No. 6,264,356 B1 issued July 24, 2001 to WMF AG and  
the stirrer described in U.S. Patent No. 5,947,595 issued

- 2 -

September 7, 1999 to Rösle Metallwarenfabrik GmbH & Co. KG are also known. Another example of a kitchen utensil is a cleaning tool that generally has cleaning elements such as bristles extending from a central body.

5 Common among the above described kitchen utensils is the round shape of the cross-sectional profile 19 of the elongate members 18 as illustrated in Figure 1b. The round profile 19 of the elongate members 18 (e.g. whisking elements or cleaning elements) of the kitchen utensils  
10 tends to minimize the frictional engagement of the elements and the vessel or food with which the kitchen utensil is being used. As such, for example, most whisks are not well-suited for scraping food from a vessel such as from a mixing bowl to a baking pan. Increased user effort is  
15 often required to achieve desired results or more than one utensil may be required when such results are not achievable.

It is therefore desired to provide a kitchen utensil that improves the contact between the utensil and vessel or food  
20 within the vessel without the requirement of increasing the effort of the user.

#### **SUMMARY OF THE INVENTION**

In one aspect, the invention provides a kitchen utensil having an elongate element covered by a resilient material  
25 covering having a non-round peripheral cross-sectional shape.

In a further aspect, the invention also provides a resilient covering having a non-round peripheral shape for a kitchen utensil, such as a whisk for mixing, beating or  
30 processing a food.

In accordance with an aspect of the invention there is provided a covering for an elongate member of a kitchen utensil, the elongate member for contacting at least one of a food, and a food containing surface. The covering  
5 comprises a resilient material suitable for food processing for surrounding the elongate member, the covering having an non-round cross-sectional shape.

In accordance with another aspect of the invention there is provided a kitchen utensil comprising a handle, at least  
10 one wire-like, flexible elongate member. Each elongate member having at least one end secured to the handle, the elongate member having a non-round peripheral cross-sectional shape for contacting at least one of a food and a food containing surface.

15 Preferably, the elongate member may comprise a thin, flexible element and a covering of resilient material suitable for food processing surrounding each flexible element, the covering having an outer surface having a non-round, cross-sectional shape.

20 In accordance with a further aspect of the invention, there is provided a kitchen utensil comprising a handle having an inner and an outer end; and at least one wire-like flexible elongate member for contacting at least one of a food and a food containing surface. Each elongate member has at least  
25 one end connected to the inner end of the handle defining a cross-sectional shape having a peripheral edge for maximising frictional contact with the at least one of a food and food containing surface.

The kitchen utensil may further comprise the elongate  
30 member shaped to conform the interior profile of a vessel to aid with cleaning the vessel.

**BRIEF DESCRIPTION OF THE DRAWINGS**

Further features and advantages of the present invention will become apparent from the following detailed description, taken in combination with the appended  
5 drawings, in which:

Fig. 1a shows a kitchen utensil namely a whisk according to the prior art;

Fig. 1b shows a cross-sectional view of a typical elongate member (i.e. wire loop) of the prior art kitchen utensil of  
10 Fig. 1a;

Fig. 2 shows a cross-sectional view of a wire-like elongate member for a kitchen utensil in accordance with the invention;

Fig. 3a-d show other embodiments of the cross-section of an elongate member for a kitchen utensil of the present  
15 invention;

Fig. 3y shows a cross-sectional view of an elongate member having an inner core surrounded by tubing made from a resilient material configured in accordance with the  
20 invention;

Fig. 4 shows an alternate embodiment of a kitchen utensil with the elongate members of the kitchen utensil configured in accordance with the invention and conforming to the shape of the interior profile of a vessel; and

25 Fig. 5 shows a further alternate embodiment of a kitchen utensil with the elongate members of the kitchen utensil configured in accordance with the invention conforming to the shape of the interior profile of a vessel.

It will be noted that throughout the appended drawings,  
30 like features are identified by like reference numerals.

**DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT**

Fig. 2 illustrates a non-round cross-sectional profile 20 of an elongate member 18 constructed in accordance with the invention for a kitchen utensil such as the whisk 10 of Fig. 1. The general peripheral edge 22 of profile 20 in Fig. 2 is of a varying diameter from the central axis of elongate member 18 and defines a plurality of valleys or recesses 23 and peaks or projections 24 as measured from a notional circumference around member 18 (not shown) determined from its average diameter. The peripheral edge 22 increases the surface area of elongate member 18 relative to a round profile (e.g. profile 19 of Fig. 1b) for a similarly sized elongate member 18 thus facilitating increased contact between utensil 10 and any food or surface with which it may be used.

When employed in a whisk configuration for whipping liquids, such a profile 20 adds local turbulence to the liquid and increases air entrainment.

Figs. 3a-d show different embodiments of the cross-sectional profile 20. Fig. 3a shows a star-like shape. Fig. 3b shows a flower-like shape. Fig. 3c shows a V-shape. Fig. 3d shows a cog shape. Preferably the peripheral edge 22 of the elongate member 18 defines a series of projections and grooves or recesses located around elongate member 18; however, it will be understood that any non-round shape may be used that increases the surface area of elongate member 18 for contact with the food containing surface and/or the food with which utensil 10 is to be used. Additional shapes include rectangular shapes such as a square, a pentagon, a hexagon, etc. It being understood that such regular n-sided equilateral shapes having many edges such that the shape approaches a round shape are less preferred.

Each elongate member 18 is preferably made from a flexible resilient material, preferably metal, plastic, nylon or silicon such as by extrusion/drawing methods understood to those in the art. For kitchen utensils that directly  
5 contact food for food preparation, a suitable neutral material should be used such as stainless steel or food-friendly plastics. The degree of flexibility of the elongate member 18 may be chosen according to the intended use of utensil 10. Flexibility may be varied through  
10 choice of materials and dimensioning of the cross-section profile 20.

Fig. 3y shows a further embodiment of elongate member 18 comprising a central core 22, made from a flexible metal (stainless steel), and a surrounding tubing or covering 24,  
15 made, for example, from resilient silicon. Also, the use of a covering made from a flexible resilient material increases the diameter of the elongate element 18 without significantly changing the flexibility and spring characteristics of the covered elongate member.

20 The use of a central core and a surrounding covering has been previously described in U.S. Patent No. 6,257,752 incorporated herein by reference. At least one of the covering 24 and central core 22 is connected at one or more respective ends thereof to handle 12. Covering 24 may be  
25 secured at one or both ends but free to rotate or twist about elongate member 18. Alternatively, the covering 24 may be secured throughout its length to central core 22 such as by adhesive bonding or simply surround central core 22 and is left unsecured while securing at least one end of  
30 central core 22 to handle 12. The later alternative is not preferred if the covering 24 is configured relative to central core 22 to permit excessive radial movement of covering 24. Such may negate the increase in frictional

- 7 -

contact between elongate member 18 and the food or surface with which it is being used resulting from the non-round profile.

In another embodiment of the invention central core 22 of elongate member 18 can be covered by a resilient material using a molding technique. Each central core 22 is covered individually and later secured to handle 12 as is described above. Also central core 22 can be secured to handle 12 and a covering 24 can be molded on to central core 22 and handle 12.

The performance of whisks having uncoated stainless steel wires and whisks having stainless steel wires with silicon in accordance with the invention were compared. Two whisks having uncoated stainless steel wires and two whisks having stainless steel wires coated with silicon were selected to evaluate their comparative performance. The diameter of the uncoated wires was 0.005" (0.01 cm), and the diameter of the coated wires was 0.095" (0.24 cm). In the test, the coated wires were star-shaped as illustrated in FIG. 3a. The performance of the whisks was evaluated by mixing three raw eggs in identical containers, and then comparing results. The eggs were mixed and observed after 10, 20 and 40 cycles. The result of the testing illustrated that the eggs mixed with the silicon coated whisk appeared more thoroughly mixed after each interval.

It will be understood to those skilled in the art that characteristics of the elongate member may be varied by using materials of varying degrees of flexibility, particularly for a member comprising a central core and tubing. For example, an elongate member constructed from a relatively inflexible core with a tubing exhibiting flexible projections may provide superior cleaning/scraping action to a similar member comprising a more flexible core



material. In general, a cleaning tool will be configured to be more rigid than a tool primarily intended for whipping.

- Referring now to Fig. 4, a further embodiment of a kitchen utensil 10 of the present invention is shown. The kitchen utensil 10 comprises a plurality of flexible elongate members 18 shaped to conform to the interior profile of a vessel 26 such as a pot or bowl. It will be understood that the elongate members 18 could be shaped to conform to different shapes depending on the end use requirements. For example, the elongate member 18 could be formed to conform to the interior profile of a bottle, or could be formed into a hook shape to be able to reach inside the corners of different shaped vessels as illustrated in Fig. 5. It will be further understood by a person skilled in the art that the loops will be made of a resilient flexible material that allows for flexibility within the movement of the loops whilst maintaining the contour of the required shape.
- 20 The embodiment(s) of the invention described above is(are) intended to be exemplary only. The scope of the invention is therefore intended to be limited solely by the scope of the appended claims.

**I/WE CLAIM:**

1. A covering for an elongate member of a kitchen utensil wherein the elongate member is for contacting at least one of a food and a food containing surface, the covering comprising a resilient material suitable for food processing for surrounding the elongate member, the covering having a non-round peripheral cross-sectional shape.
2. The covering as claimed in claim 1, wherein the non-round shape includes a series of peripheral projections and recesses.
3. The covering as claimed in any one of claims 1 and 2, wherein the non-round shape is selected from the group of V, flower, star, square and cog shapes.
4. The covering as claimed in any one of claims 1, 2 and 3 wherein the elongate member comprises a central core having a round cross-sectional shape and wherein the covering is for surrounding the central core.
5. A kitchen utensil comprising a handle, at least one wire-like flexible elongate member, each elongate member having at least one end secured to the handle, the elongate member having a non-round peripheral cross-sectional shape for contacting at least one of a food and a food containing surface.
6. The kitchen utensil as claimed in claim 5 wherein each elongate member comprises a thin, flexible element and a covering of resilient material suitable for food processing surrounding each flexible element,

the covering having a non-round peripheral cross-sectional shape.

7. The kitchen utensil as claimed in any one of claims 5 and 6, wherein the non-round shape further comprises a series of peripheral projections and recesses.
8. The kitchen utensil as claimed in any one of claims 5, 6 and 7, wherein the non-round peripheral shape is selected from the group of V, flower, star, square and cog shapes.
9. The kitchen utensil as claimed in any one of claims 6, 7 and 8 wherein the covering comprising at least one of plastic, nylon and silicone.
10. The kitchen utensil as claimed in any one of claims 5, 6, 7, 8 and 9, wherein the elongate member comprising at least one of metal, plastic, silicon and nylon.
11. The kitchen utensil as claimed in any one of claims 5, 6, 7, 8, 9 and 10 wherein the elongate member defines a loop.
12. The kitchen utensil as claimed in claim 11, wherein the elongate members are disposed in a whisk configuration selected from the group comprising of a piano whisk configuration, an egg whisk configuration, a flat whisk configuration, a balloon whisk configuration and a helical whisk configuration.
13. The kitchen utensil as claimed in any one of claims 5, 6, 7, 8, 9, 10, 11, and 12 wherein the at least

- 11 -

one elongate member is configured to conform to an internal profile of a vessel.

14. A kitchen utensil comprising a handle having an inner and an outer end; and at least one flexible wire-like elongate member for contacting at least one of a food and a food containing surface, each elongate member having at least one end connected to the inner end of the handle, and each elongate member defining a cross-sectional shape having a peripheral edge for maximising frictional contact with the at least one of a food and food containing surface.
15. The kitchen utensil as claimed in claim 14, wherein each elongate member defines a loop.
16. The kitchen utensil as claimed in claim 15, wherein the elongate members are disposed in a whisk configuration selected from the group consisting of a piano whisk configuration, an egg whisk configuration, a flat whisk configuration, a balloon whisk configuration and a helical whisk configuration.
17. The kitchen utensil as claimed in any one of claims 14, 15 and 16, wherein the elongate members comprise a central core and resilient tubing surrounding the core.
18. The kitchen utensil as claimed in any one of claims 14, 15, 16, and 17 wherein the at least one elongate member is shaped to conform to an internal profile of a vessel.

19. The kitchen utensil as claimed in any one of claims 14, 15, 16, 17, and 18 wherein the cross-sectional shape of the elongate member is non-round.

## AMENDED CLAIMS

[Received by the International Bureau on 13 May 2003 (13.05.03):  
original claims 1-19 replaced by amended claims 1-21 (4 pages)]

1. A covering for an elongate member of a kitchen utensil wherein the elongate member is for contacting at least one of a food and a food containing surface, the covering comprising a resilient material suitable for food processing for surrounding the elongate member, the covering having a non-round peripheral cross-sectional shape.
2. The covering as claimed in claim 1, wherein the non-round shape includes a series of peripheral projections and recesses.
3. The covering as claimed in any one of claims 1 and 2, wherein the non-round shape is selected from the group of V, flower, star, square and cog shapes.
4. The covering as claimed in any one of claims 1, 2 and 3 wherein the elongate member comprises a central core having a round cross-sectional shape and wherein the covering is for surrounding the central core.
5. A kitchen utensil comprising a handle and at least one wire-like flexible elongate member having at least one end secured to the handle, the elongate member comprising a thin, flexible element and a covering of resilient material suitable for food processing having a non-round peripheral cross-sectional shape for contacting at least one of a food and a food containing surface.
6. {Cancelled}

7. The kitchen utensil as claimed in claim 5 wherein the non-round shape comprises a series of peripheral projections and recesses.
8. The kitchen utensil as claimed in any one of claims 5 and 6 wherein the non-round peripheral shape is selected from the group of V, flower, star, square and cog shapes.
9. The kitchen utensil as claimed in any one of claims 5, 7 and 8 wherein the covering comprises at least one of plastic, nylon and silicone.
10. [Cancelled]
11. [Cancelled]
12. The kitchen utensil as claimed in any one of claims 6, 7, 8 and 9 wherein the elongate members are disposed in a whisk configuration selected from the group comprising of a piano whisk configuration, an egg whisk configuration, a flat whisk configuration, a balloon whisk configuration and a helical whisk configuration.
13. The kitchen utensil as claimed in any one of claims 5, 7, 8, 9 and 10 wherein the at least one elongate member is configured to conform to an internal profile of a vessel and wherein said covering defining a cross-sectional shape having a peripheral edge for maximizing frictional contact with the vessel.
14. A kitchen utensil comprising:  
a handle having an inner and an outer end; and

at least one flexible wire-like elongate member for contacting at least one of a food and a food containing surface;

said each elongate member having at least one end connected to the inner end of the handle;  
and

said each elongate member comprising a resilient tubing surrounding a central core element;

said resilient tubing defining a cross-sectional shape having a peripheral edge for maximizing frictional contact with the at least one of a food and food containing surface.

15. [Cancelled]

16. The kitchen utensil as claimed in claim 14 wherein the elongate members are disposed in a whisk configuration selected from the group consisting of a piano whisk configuration, an egg whisk configuration, a flat whisk configuration, a balloon whisk configuration and a helical whisk configuration.

17. [Cancelled]

18. The kitchen utensil as claimed in any one of claims 14 and 16 wherein the at least one elongate member is configured to conform to an internal profile of a vessel.

19. The kitchen utensil as claimed in any one of claims 12, 13, 14 and 15 wherein the cross-sectional shape of the elongate member is non-round.



20. The kitchen utensil as claimed in claim 14, 16, 18 wherein the cross-sectional shape of the resilient tubing is selected to optimize cleaning of the vessel.
21. The covering as claimed in any one of claims 1, 2, 3 and 4 wherein the non-round peripheral shape is selected to increase contact with the food containing surface for cleaning.

Figure 1a

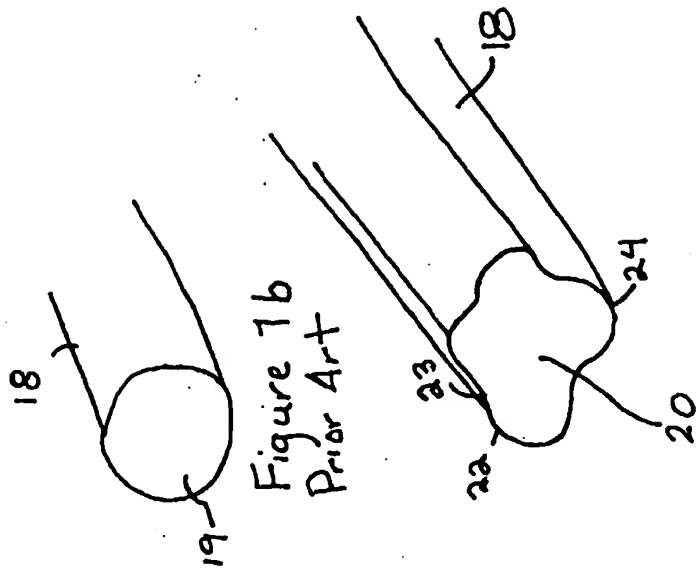
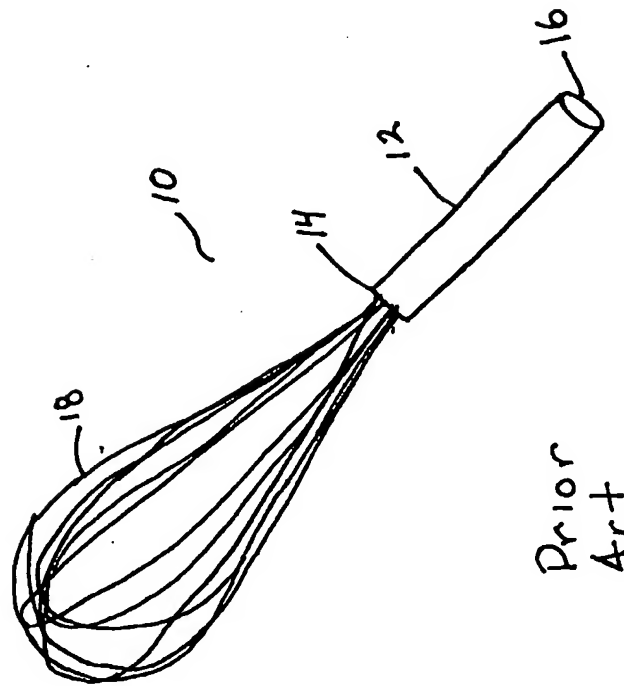


Figure 2

Figure 3b

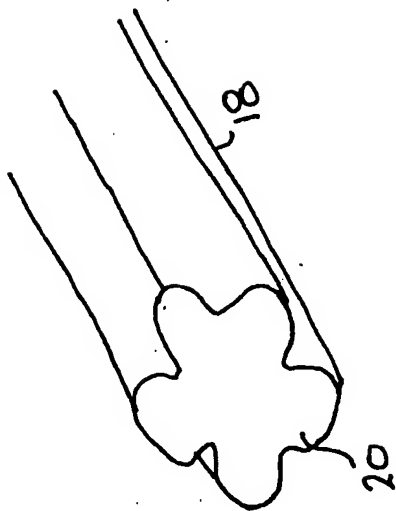


Figure 3d

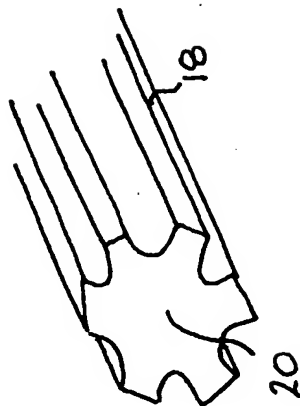


Figure 3a

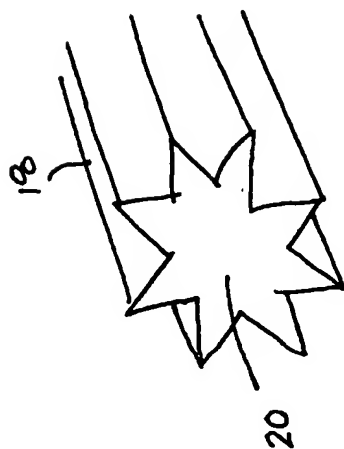
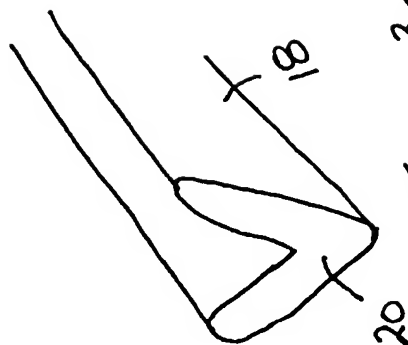


Figure 3c



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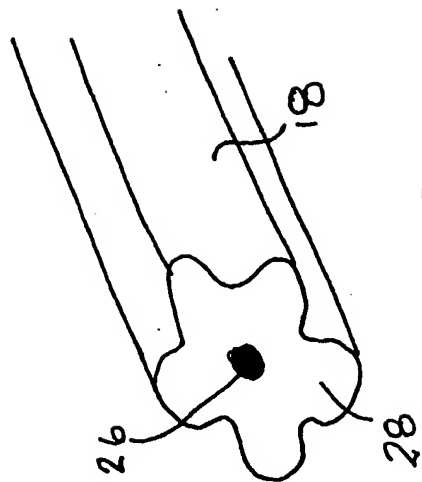


Figure 3

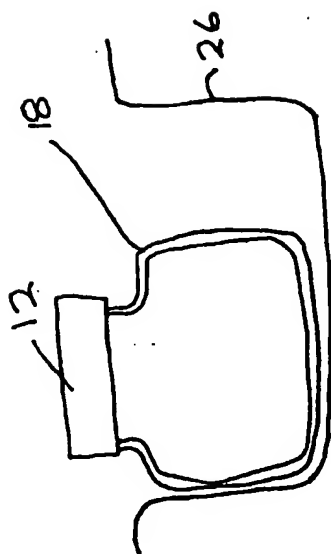


Figure 4

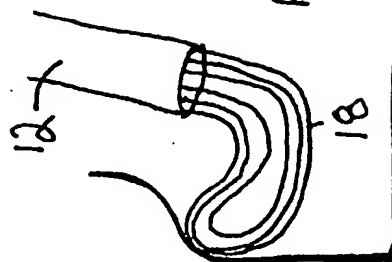


Figure 5

## INTERNATIONAL SEARCH REPORT

International Application No.

PCT/CA 02/01739

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A47J43/10

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A47J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CH 170 402 A (AMMANN EMIL GUSTAV) 15 July 1934 (1934-07-15)	5,7,8, 10-19
Y	the whole document	1-4,6,9
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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

19 February 2003

Date of mailing of the international search report

13/03/2003

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 334 157 C (CARL LANGE)	5, 14
A	10 March 1921 (1921-03-10) the whole document -----	1

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Information on patent family members

International Application No

PCT/CA 02/01739

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